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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/595,710	05/25/2006	Ichinori Takada	112857-559	5132
29175 7590 08/25/2008 BELI., BOYD & LLOYD, LLP P. O. BOX 1135 CHICAGO, IL 60690				
EXAMINER GARRETT, DAWN L				
ART UNIT		PAPER NUMBER		
1794				
MAIL DATE		DELIVERY MODE		
08/25/2008		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

## Application No.

10/595,710

## Applicant(s)

TAKADA ET AL.

## Examiner

Dawn Garrett

## Art Unit

1794

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 05 May 2006.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 17-31 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 17-31 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 05 May 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO-85/86)  
Paper No(s)/Mail Date 4/28/2008; 5/5/2006  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

1. This application is a 371 of PCT/JP04/16803. The preliminary amendment to the specification and claims has been entered. Claims 1-16 are canceled. Claims 17-31 were added and are pending.

***Claim Objections***

2. Claim 18 is objected to because of the following informalities: Claim 18 comprises two sentences and a claim may only comprise 1 sentence. It appears the portion of claim 18 at the top of page 5 was intended to be separate claim. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 18-22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- a. It is unclear how the portion of claim 18 on page 5 reciting formula (2) is associated with the beginning of the claim associated with formula (1). Clarification and correction are required.
- b. In the second portion of claim 18, the phrase “wherein said monovalent group is an unsubstituted phenyl group, said divalent group is a divalent group derived from unsubstituted biphenyl, and each of two fluoranthenes is bonded to nitrogen at the carbon numbered 3 is excluded” is confusing. The exclusions to general formula (2) for Ar1, Ar2 and the bonding of the fluoranthene groups is not entirely understood. For instance,

is Ar2 excluded from being bi-phenyl!? Dependent claim 20 requires that Ar2 may be biphenyl. Clarification and/or correction are required.

### DETAILED ACTION

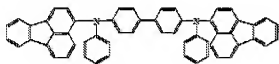
#### *Claim Rejections - 35 USC § 102*

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

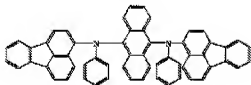
A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claim 17 is rejected under 35 U.S.C. 102(b) as being anticipated by Kikuchi et al. (JP 2000-56489). Kikuchi et al. discloses a compound according to instant formula 1 (see page 7, compound 18).
7. Claims 17-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Hosokawa et al. (JP 2002-69044). Hosokawa et al. discloses hydrocarbon compounds for an organic electroluminescent element (see title). Hosokawa et al. discloses the following compounds on page 8 of the patent document:



(A 2 2)



(A 2 4)

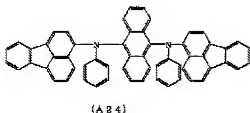
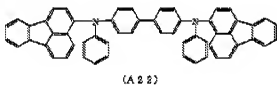
These compounds are within the definition of instant formula (1). With regard to claim 19, since Hosokawa et al. discloses compounds within the instant formula (1) definition, the light emission properties are considered inherent.

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

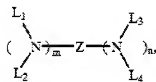
9. Claims 23-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hosokawa et al. (JP 2002-69044). Hosokawa et al. discloses hydrocarbon compounds for an organic electroluminescent element (see title). Hosokawa et al. discloses the following compounds on page 8 of the patent document:



These compounds are within the definition of instant formula (3). Although Hosokawa et al. does not *exemplify* the method for making compounds A22 and A24 above, Hosokawa et al. does teach forming the inventive compounds using halogenated reactants and reactants with a nitride

group along with metal catalysts (see patent document pages 13-14). It would have been obvious to one of ordinary skill in the art at the time of the invention to have formed the compounds of Hosokawa et al. using the same methods as set forth in claims 23-31, because Hosokawa et al. discloses final products according to instant formula (3) and reactant steps according to the instant formulas in order to form the final product. One would expect the methods taught by Hosokawa to be applicable in forming disclosed compounds A22 and A24. Furthermore, the modification of the process would have been within the capabilities of one skilled in the art. "Selection of any order of performing process steps is *prima facie* obvious in the absence of new or unexpected results" In re Burhans, 69 USPQ 330.

10. Claims 17-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oh et al. (US 2003/0118866 A1). Oh et al. discloses the following general formula of compounds for an organic electroluminescent device:



In the above formula, L1-L4 may be substituted or unsubstituted aromatic groups (see par. 35). Z may be A1 wherein A1 includes aromatic hydrocarbon groups (see par. 31 and 32, and par 71-72). Oh et al. does not *exemplify* fluoranthene groups as the aromatic groups for two of L1-L4, but does generally teach aromatic groups having the required number of carbon atoms and similar groups to fluoranthene. It would have been obvious to one of ordinary skill in the art at the time of the invention to have selected fluoranthene groups for two of L1-L4 in the

compound, because one would expect the compound to result in a well-functioning material for a device, since such a compound is within the group set forth by Oh et al. With regard to the method claims, Oh et al. teaches method steps using halogenated reactants and reactants with a nitrogen-containing group along with metal catalysts (see pages 16-18). It would have been obvious to one of ordinary skill in the art at the time of the invention to have formed the compounds of Oh et al. using the same methods as set forth in claims 23-31, because Oh et al. generally discloses final products according to instant formula (3) and reactant steps according to the instant formulas in order to form the final product. One would expect the methods taught by Oh et al. to result in compounds suitable for the Oh et al. device. Furthermore, the modification of the process would have been within the capabilities of one skilled in the art. "Selection of any order of performing process steps is *prima facie* obvious in the absence of new or unexpected results" In re Burhans, 69 USPQ 330.

### ***Conclusion***

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dawn Garrett whose telephone number is (571) 272-1523. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Milton Cano can be reached on (571) 272-1398. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Dawn Garrett/  
Primary Examiner, Art Unit 1794

August 22, 2008